

IN THE CLAIMS:

Please amend the claims as indicated below.

1. (Original) A method for storing a packet in a shared memory in a packet switch,
5 said shared memory comprising one or more buffers, each of said one or more buffers comprising a plurality of banks, said method comprising the step of:
storing at least a portion of a packet in contiguous banks of a first buffer.
2. (Currently Amended) The method of claim 1, wherein said packet comprises a
10 plurality of portions ~~data-units~~, and further comprising the step of storing an additional portion of said packet in contiguous banks of a second buffer if one of said portions ~~data-units~~ is stored in a last bank of said first buffer and said portion ~~data-unit~~ stored in said last bank of said first buffer is not a last portion ~~data-unit~~ of said packet.
- 15 3. (Original) The method of claim 1, wherein each of said one or more buffers comprises one or more groups and each of said groups comprises a plurality of banks.
4. (Original) The method of claim 1, wherein at least a portion of each of two or
20 more packets are stored in one of said buffers.
5. (Original) The method of claim 1, further comprising the step of cyclically accessing one or more data ports, each of said data ports corresponding to one or more of said plurality of banks.
- 25 6. (Original) The method of claim 1, wherein said banks are divided into a first set of banks and a second set of banks, and further comprising the step of allocating a buffer that comprises one or more banks from said first set and a buffer that comprises one or more banks from said second set in response to a buffer request.
- 30 7. (Original) The method of claim 1, wherein said shared memory exchanges packets between ports in said packet switch.

8. (Currently Amended) The method of claim 1, wherein ~~said~~ sequential data units of said packet are stored in contiguous banks of at least one of said one or more buffers.

9. (Currently Amended) A method for managing a shared memory in a packet switch, said shared memory comprising one or more buffers, said method comprising the step of:
maintaining a buffer usage count for at least one of said buffers, wherein said buffer usage count provides an indication of the sum over all packets in said at least one of said buffers of the number of output ports toward which each of said packets is destined, wherein said at least one of said buffers contains two or more packets.

10. (Original) The method of claim 9, further comprising the step of incrementing said buffer usage count by one to indicate that a packet destined for one output port is stored in said buffer.

11. (Original) The method of claim 9, further comprising the step of decrementing said buffer usage count by one when a data unit is read from said buffer and said data unit is the last data unit of a packet or the last data unit of said buffer.

12. (Original) The method of claim 9, wherein said buffer usage count indicates a number of destination ports for a packet to perform a multicasting operation.

13. (Original) The method of claim 9, further comprising the step of determining whether a buffer is free based on said buffer usage count.

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Original) A shared memory for storing a packet, comprising:
one or more buffers, each of said buffers comprising a plurality of banks, wherein
at least a portion of said packet is stored in contiguous banks of a first buffer.

5 19. (Original) The shared memory of claim 18, wherein said packet comprises a
plurality of data units, and wherein an additional portion of said packet is stored in contiguous
banks of a second buffer if one of said data units is stored in a last bank of said first buffer and
said data unit stored in said last bank of said first buffer is not a last data unit of said packet.

10 20. (Original) The shared memory of claim 18, wherein each of said one or more
buffers comprises one or more groups and each of said groups comprises a plurality of banks.

21. (Original) The shared memory of claim 18, wherein at least a portion of each of
two or more packets are stored in one of said buffers.

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22. (Original) The shared memory of claim 18, wherein said banks are divided into a
first set of banks and a second set of banks, and further comprising the step of allocating a buffer
that comprises one or more banks from said first set and a buffer that comprises one or more
banks from said second set in response to a buffer request.

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23. (Original) The shared memory of claim 18, wherein said shared memory
exchanges packets between ports in a packet switch.

24. (Original) The shared memory of claim 18, further comprising a counter for
25 monitoring a buffer usage count that provides an indication of the sum over all packets in said at
least one of said buffers of the number of output ports toward which each of said packets is
destined.